

In the Claims

Please amend the claims as follows:

1. (Currently amended) A method of fabricating a photovoltaic device, comprising:
providing a substrate;
forming an electrode first film on the substrate;
forming a semiconductor second film on the electrode first film;
forming a semiconductor third film on the semiconductor second film; and
forming an electrode fourth film on the semiconductor ~~third, film~~ third film,
wherein one of forming the second film and forming the third film includes:
depositing semiconductor material using a deposition source; and
supplying ~~foeussed~~ focused energy to the semiconductor material being deposited
simultaneously with the depositing of the semiconductor material in order to deposit the
semiconductor material into a more highly ordered crystalline film structure.
2. (Original) The method of claim 1, wherein supplying energy includes supplying
energized particles having energy of greater than about 5 eV and less than about 3000 eV.
3. (Original) The method of claim 1, wherein supplying energy includes supplying
energized particles having energy in the range of about 5 eV to about 500 eV.
4. (Original) The method of claim 1, wherein supplying energy includes supplying
energized particles having energy in the range of about 5 eV to about 250 eV.
5. (Original) The method of claim 1, wherein supplying energy includes supplying
energized particles having energy in the range of about 10 eV to about 200 eV.
6. (Original) The method of claim 1, wherein supplying energy includes supplying
energized particles having energy in the range of about 20 eV to about 40 eV.

7. (Original) The method of claim 1, wherein forming the second film includes depositing CdS.
8. (Original) The method of claim 1, wherein forming the third film includes depositing CdTe.
9. (Original) The method of claim 1, wherein forming the second film includes the supplying energy, and wherein the supplying energy includes supplying ionized sulfur.
10. (Currently amended) The method of claim 10 9, wherein forming the second film includes depositing ~~the~~ cadmium and reacting ~~the~~ cadmium with the ionized sulfur.
11. (Original) The method of claim 1, wherein forming the third film includes the supplying energy, and wherein the supplying energy includes supplying energized ions.
12. (Original) The method of claim 1, wherein supplying energy includes supplying ions simultaneously with depositing material from the deposition source.
13. (Original) The method of claim 1, wherein supplying energy includes supplying oxygen ions.
14. (Original) The method of claim 1, wherein the substrate is not heated during forming the second film or the third film.
15. (Currently amended) The method of claim 1, wherein forming the semiconductor third film on the semiconductor second film includes depositing a ~~high-quality~~ first region and then depositing a second highly doped region on the first region.

16. (Cancelled)

17. (Currently amended) A photovoltaic cell made according to a method comprising:

providing a substrate;

forming ~~[[a]]~~ an essentially transparent electrode first film on the substrate;

forming a semiconductor second film on the electrode first film;

forming a semiconductor third film on the semiconductor second film; and

forming an electrode fourth film on the semiconductor ~~third, film~~ third film,

wherein one of forming the second film and forming the third film includes:

depositing semiconductor material using a deposition source; and

supplying ~~focussed~~ focused energy to the semiconductor material simultaneously with the

depositing of the semiconductor material in order to deposit the

semiconductor material into a more highly ordered crystalline film structure.

18. (Currently amended) A photovoltaic cell made according to claim ~~18~~ 17, further wherein the substrate is essentially transparent; and the semiconductor third film includes a ~~high-quality~~ first region adjacent to the second film and a highly doped second region remote from the second film, and the first region and the second film form a PN junction of the photovoltaic cell.

19. (Currently amended) An apparatus for fabricating a photovoltaic device on a substrate, comprising:

means for forming an electrode first film on the substrate;

means for forming a high-quality semiconductor second film on the electrode first film;

means for forming a high-quality semiconductor third film on the semiconductor second film; and

means for forming an electrode fourth film on the semiconductor ~~third, film~~ third film,

wherein one of the means for forming the second film and the means for forming the third film includes:

means for depositing semiconductor material using a deposition source and for supplying focused energy to the semiconductor material to deposit the semiconductor material into a more highly ordered crystalline film structure.

20. (New) The method of claim 1, wherein the depositing of the semiconductor material using a deposition source is performed in a chamber held at a temperature of less than about 300 degrees Celsius.

21. (New) The method of claim 1, wherein the depositing of the semiconductor material using a deposition source is performed in a chamber held at a temperature of between about 30 degrees Celsius and about 275 degrees Celsius.